



The De Soto Local Road Improvements Project

The De Soto Local Road Improvements Project was a transformative infrastructure initiative that laid the groundwork for one of Kansas’s most significant industrial developments—Panasonic Energy Co.’s electric vehicle battery manufacturing facility in De Soto. The project delivered four miles of new four-lane arterial roadway, enhanced regional connectivity, and upgraded essential utility systems to accommodate future growth. At the heart of the project’s stormwater strategy was the extensive use of precast concrete drainage products, which provided long-term performance, speed of installation, and structural durability critical to the corridor’s success.

Innovative Delivery Approach

This project marked the first use of the Progressive Design-Build delivery method by the Kansas Department of Transportation (KDOT). This approach allowed for phased construction while design was still in progress, giving the project team the flexibility to adapt to changing site conditions and stakeholder needs. By dividing the project into multiple work packages, the team could begin early utility and drainage installation, which included precast components, well before paving operations commenced. This strategy ensured a fast-tracked delivery while accommodating the complex demands of the developing Panasonic campus and surrounding infrastructure.

Precast Concrete Product Integration

A major objective of the project was converting a two-lane open-ditch roadway into a modern four-lane corridor with a fully enclosed storm sewer system. To accomplish this, the project team installed:

- Approximately 14,000 linear feet of precast concrete pipe
- Roughly 150 precast manholes and inlets
- More than 500 linear feet of double- and triple-barrel precast box culverts

These precast elements allowed for efficient, high-capacity stormwater conveyance beneath roadways, roundabouts, and intersections. One of the largest drainage structures included a double 8-foot by 8-foot precast box culvert, designed to handle significant stormwater volumes at key points in the system. Precast pipe diameters reached up to 72 inches in areas with increased flow requirements.

Construction Efficiency and Performance Benefits

The use of precast concrete greatly accelerated installation timelines and improved quality control. Because the components were produced in a controlled environment, on-site variability and delays were minimized. Quick placement of the storm sewer infrastructure allowed other critical phases—such as grading, bridgework, and paving—to proceed without disruption. The durability of precast materials also ensures that the installed system will require minimal maintenance and provide reliable performance for decades.

Project Completion and Lasting Impact

Construction officially began in June 2023, and the corridor was opened to traffic in December 2024, ahead of schedule and in alignment with the launch of Panasonic’s operations. The integration of high-quality precast concrete products played a pivotal role in the project’s ability to meet an accelerated timeline while delivering resilient, future-ready infrastructure for the region.

Project Profile

Location
De Soto, Kansas

Installation Completed
December 2024

Project Owner
Kansas Department of Transportation

Contractor
Clarkson Construction Company

Producer
Prettech Corporation

Engineer/Designer
HDR

» Progressive Design-Build, Box Culvert, Precast Drainage